

INDIVIDUAL DIFFERENCES AND STRESS-PERFORMANCE RELATIONSHIP

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Background: Medicine is a high risk profession. Infectious diseases, dealing with difficult patients, accidents on the job, and other hazards have shortened the careers of many practitioners. The extent to which they experience stress turns into poor performance in terms of quality of patient care. Personality traits are often thought to affect the stress that a person perceives. Specific types of personalities seem to be more susceptible to the effects of stress than others. Job performance is associated with different levels of stress. The purpose of the present study was to investigate any effect of job stress on job performance and effect of personality type on the stress-performance relationship. **Methods:** All 55 house officers enrolled at Ayub Teaching Hospital at the time of study were included in the study. Primary data was gathered through questionnaire designed to address personality type and to gather information about job stress and performance. Individual semi-structured interviews and observations were used to collect information in order to find out how the work patterns have been influenced by environmental factors. The data obtained through questionnaire was analysed using the statistical methods including descriptive statistics, Spearman's correlation and multiple regression. **Results:** The results indicated that Type A individuals tend to experience more stress than Type B, however no major statistical differences were found. Type A individuals performed slightly better than Type B. **Conclusion:** Identification of house officers' personality traits will be helpful in assessing stress and designing different stress coping strategies to reduce their level of stress and improve their performance. The correlation between job stress and job performance among house officers with Type A personality characteristics is high.

Keywords: Job stress, Occupational stress, Personality Type, Performance

INTRODUCTION

There is a growing awareness that physicians and other health care professionals are at risk for burnout, which threatens the sustainability of the health care enterprise. Recent changes in health care delivery have added new demands to already stressful work of medical staff.¹

Stress has been defined as a dynamic condition in which the individual is confronted with an opportunity, constraint, or demand related to what he or she desires and for which the outcome is perceived to be both uncertain and important.² The basic idea of the stimulus-based model is to identify the sources of stress. Stimulus-based definitions have their roots in physics and engineering where the focus is on the effect of external forces that result in a demand or reaction and then creates distortion.³ Stress has been defined as a response: the origins of the response-based definitions were led by the work of Hans Selye.⁴ Both stimulus and response definitions of stress fail to apprehend the individual differences and the cognitive process of the individual.⁵ Such shortcomings of the stimulus and response definitions of stress led to the third form of stress definition: the result of an interaction between a stimulus and a response that is described in terms of an imbalance between the person and the environment.⁶ This approach is one where a relationship, usually correlational, is hypothesised between a stimulus and a response.³

It is considered that personality traits often affect the stress that a person perceives or manifests. It has been found that Type A personalities are more likely to get involved in more stressful situations while personality features are important risk factors to predict stress.⁷

A survey conducted by the Department of Community Health Sciences, The Agha Khan University, concluded that Majority (68%) of the doctors were not satisfied with their jobs, females more than males. A vast majority of female doctors who participated in that survey perceived that their Physical health was good but level of stress was 'high' or 'moderate'. Stress in female physicians led to more time-off work and they started taking antidepressants while some also started smoking. Those doctors who were working under stress were less likely to enjoy their practice. Characteristics, which lead to dissatisfaction, were pay and benefits, safety and security, workload, adequate resources and physical working conditions.⁸

Although, it is difficult to define accurately, stress appears to be an unavoidable and common aspect of a doctor's work. It may have positive aspects in that some individuals may feel challenged and may be able to raise productivity to meet increasing demands; however, in junior doctors, work related stress and anxiety have been shown to lead to low morale and poorer work performance and to adversely affect the quality of care provided.⁹ A number of studies have

shown that stress experienced by junior doctors led to reduced job satisfaction, depression and anxiety, sickness absence, and intention to leave. However, the problem has been difficult to study because individual responses to stressful situations vary and certain people are more likely than others to perceive high levels of stress in their jobs.¹⁰

The increased demands of health care facilities and the sensitivity of the work at hospitals have increased job-stress on the individuals working in it especially, the amount of pressure on the doctors has increased enormously.¹¹ The delivery of high-quality medical care contributes to improved health outcomes. A doctor's job satisfaction affects quality of medical care that he/she provides, patients' satisfaction with the doctor, patients' adherence to treatment, and decreases doctor's turnover.⁸

Work related stress and burnout are particularly relevant to nurses and other health care workers. Throughout their education, training and practice, physicians develop unhealthy work styles, unbalanced life styles, psychological inhibitions and emotional unresponsiveness. Physicians share many occupational stressors with other service professionals, but they also have work environment factors that set them apart: proximity to suffering and death, the emotional and physical needs of patients, and pressures to perform consistently and optimally under changing conditions and expectations. Stress plays a major role in the genesis of professional dissatisfaction, poor work performance and burnout.¹²

Different people find quite different situations to be stressful. Circumstances which one person experiences as stimulating or positively challenging will cause acute distress in another person. According to a survey, stress, anxiety, job satisfaction and the influence of personality factors on a group of house officers in the north-east of England, showed that 37.5% of women and 24% of men house officers suffered from possible psychological stress though they experienced the same job conditions.¹³

Personality factors have shown inclination towards stress, anxiety, and other occupational health outcomes in different areas of medicine, and these factors may contribute to feelings of job dissatisfaction and stress.¹⁰ While many studies have addressed these issues in many different groups of healthcare workers including those at junior, middle grade, and senior staff levels, much work is still impending.^{14,8}

Job performance can be evaluated by three factors: skills, effort and the nature of work conditions. Skills include knowledge, abilities and competencies of the employee; efforts of motivated employee; and the employees' flexible personality to work in different working environments.¹⁵ Doctors are no different to the wider population where performance relates to well-

being as well as to skills and knowledge. Evidence about the relationship between personality and performance suggests that occupational psychology has a key role to play in understanding the patterns of behaviour associated with underperformance.¹⁶

MATERIAL AND METHODS

The present study targeted all 55 enrolled house officers of Ayub Teaching Hospital, Abbottabad working in 7 different departments, 24 (44%) of them were females and 31 (56%) were males.

Out of the 55 participants, 14 (25%) were from Surgical unit, 13 (24%) from Gynaecology, 14 (25%) from Medicine, 9 (16%) from Dentistry, 2 (4%) from Paediatrics, 2 (4%) from Dermatology, and 1 (2%) from Eye unit. All subjects had the same experience level and most of them were unmarried. Their mean age was 25 years.

Primary data was collected through questionnaire designed in two parts. Part one was used to address Personality type and Part two gathered information about job stress and performance. Individual semi-structured interviews and observations were also used to collect information about the job routine, in order to find out how the work patterns have been influenced by environmental factors.

Occupational Stress was measured through a self-designed questionnaire by using the Michie (2002) defined sources of stress.¹⁷ A 5-point Likert Scale, ranging from 'never' to 'constantly' is used to measure all scales where: 1. indicates Never, 2. Rarely, 3. Occasionally, 4. Usually, and 5. Constantly. To measure performance a 5-point Likert Scale was used ranging from 1-5. The scale is grouped into 4 subscales: Knowledge, Skills, Attitude/Job enthusiasm, Job Quality, each of which was evaluated as a self-report of perceived performance as self ratings may be useful because they can improve the overall quality of the performance appraisal process. Observations and individual semi-structured interviews by the Medical Officers (MO) and Trainee Medical Officers (TMO) were also used to collect information about the performance of house Officers. A questionnaire was developed and used to determine the behaviour pattern for Type A and Type B.

The statistical method included descriptive statistics and Spearman's Correlation. Spearman's correlation was used to assess the magnitude of the relationship among the variables stress and performance. The data obtained were analysed using SPSS Version 12.0.

RESULTS

The house officers experienced moderate levels of stress. Only 7% of Type A individuals experienced high level of stress. Among Type A individuals, 20% had

lower stress level, 20% had lower-moderate, 53% had upper-moderate, and 7% had high level of stress. In Type B individuals 23% had lower stress level, 34% had lower-moderate, and 43% had upper-moderate level, and no individual experienced high stress (Table-1).

Table-1: Stress Level

Level	Type-A	Type-B
High	7%	-
Upper Moderate	53%	43%
Lower Moderate	20%	34%
Lower	20%	23%

Table-2 shows that overall lack of resources, work overload, communication and comfort with supervisor and job pressure have affected the house officers more. Majority of the factors affected Type A individuals more than Type B individuals. Regardless of personality characteristics, males (Type A & B) experienced more stress than females (Type A & B).

Table-2: Personality Specific Factor's Impact

Variable	Type A Mean	Type B Mean
Job Stress	66.66	51.0
Job Description conflict	46.22	52.0
Communication & Comfort with supervisor	60.26	52.0
Job Related Health Concerns	48.26	45.0
Work Overload	63.0	58.0
Lack of resources	72.0	80.0

All dimensions of stress (Job pressure, Job description conflict, communication and comfort with supervisor, Job related health concerns, work overload

except lack of resources) had strongly negative correlation with all dimensions of job performance. The correlation between overall job stress and overall job performance among Type A individuals was significantly negative ($r = -0.851, p > 0.01$). Job Pressure and overall job performance were highly correlated (-0.942). It has been found that Job Pressure has negative correlation with knowledge (-0.818), attitude (-0.898) and effectiveness (-0.843). Similarly, communication and comfort with supervisor has strong negative correlation with attitude (-0.890), effectiveness (-0.872), and skills (-0.767). According to the results it is clear that there is an inverse relationship between job stress and performance in personality Type A individuals (Table-3).

Job description conflict, job related health concerns and lack of resources had strong negative relationship with all dimensions of performance. It is clear that there is strong negative correlation between job description conflicts with all dimensions of performance. Job description conflicts have strong negative correlation with knowledge (-0.684), attitude (-0.530), skills (-0.489) and this correlation is significant at the significant level of 0.01 using two-tailed test. The correlation between over all job stress and job performance among Type B house officers was negative ($r = -0.683, p < 0.01$). The data demonstrate strong support that there is an inverse relationship between job stress and job performance among Type B house officers.

Table-3: Correlation between Work Stress and Job Performance in Personality type A (Spearman's correlation)

	Job Pressure	Job Description Conflict	Communication & Comfort with Supervisor	Job Related Health Concerns	Work Overload	Lack of Resources	Overall Job Stress
Knowledge	-0.818**	-0.485	-0.634*	-0.597**	-0.702**	0.364	-0.700**
Skills	-0.795**	-0.510	-0.767**	-0.437	-0.620*	0.169	-0.749**
Attitude	-0.898**	-0.769**	-0.890**	-0.727**	-0.772**	-0.079	-0.850**
Effectiveness	-0.843**	-0.554*	-0.872**	-0.717**	-0.724**	0.032	-0.805**
Overall Job Performance	-0.942**	-0.718**	-0.836**	-0.658**	-0.783**	0.083	-0.851**

* $p < 0.05$ ** $p < 0.01$

Table-4: Correlation between work stress and job performance in personality type B (Spearman's correlation)

	Job Pressure	Job Description Conflict	Communication & Comfort with Supervisor	Job Related Health Concerns	Work Overload	Lack of Resources	Overall Job Stress
Knowledge	-0.092	-0.684**	-0.285	-0.437**	-0.042	-0.498**	-0.587**
Skills	-0.049	-0.530**	-0.221	-0.516**	-0.179	-0.440**	-0.528**
Attitude	-0.214	-0.489**	-0.454**	-0.596**	-0.177	-0.323	-0.565**
Effectiveness	-0.281	-0.274	-0.618**	-0.459**	-0.233	-0.309	-0.510**
Overall Job Performance	-0.145	-0.673**	-0.411*	-0.632**	-0.164	-0.520**	-0.683**

* $p < 0.05$ ** $p < 0.01$

DISCUSSION

Our results agree with those found by others. The Extreme job involvement and continuous struggle of Type As indicates that Type As experience more stress than Type Bs. This stress may result in poor performance and job dissatisfaction.¹⁷ Fisher¹⁸ also examined the relationship between job stress and job

performance and found that Type A individuals tend to outperform.

We found that job stress and job performance among type A personality individuals are highly correlated. The major factors contributing the stress among Type A individuals are lack of resources, job pressure, work overload and lack of communication and comfort with supervisor. In case

of Type B individuals, overall job stress and job performance was negatively correlated. Type B individuals are less stressful than Type A and the major stress contributing factor is lack of resources. It has been observed that there is an inverse relationship between job stress and job performance among Type A and Type B personality individuals.

CONCLUSION

Medicine is one of the highest stressful professions. There is lack of consistency of findings regarding the impact of job stress on job performance. Identification of house officers' personality traits will be helpful in assessing stress and designing different stress coping strategies to reduce their level of stress and improve their performance. In order to reduce the job stress, organizations need to improve the working environment as a preventive measure and to enhance the performance of employees.

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